



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,168	03/05/2002	Akira Hiroshige	Q68814	5466

23373 7590 03/30/2006

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

NGUYEN, MADELEINE ANH VINH

ART UNIT PAPER NUMBER

2625

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,168

Applicant(s)

HIROSHIGE ET AL

Examiner

Madeleine AV Nguyen

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 10-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 10-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Newly submitted claims 10-15 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the image processing apparatus in claim 10 comprises a color intensity circuit for determining a luminance component based on an intensity of at least one color component separated by the separation circuit and a smoothing circuit for smoothing the electronic data in proportion to the smoothing intensity; wherein a level of noise is determined based on the luminance component and the rate is set to a large or small value when the level of noise is high or low (claim 11). Claims 1-9, and 16 are directed to a different, distinct and independent invention without claiming the above limitations in claims 10-15.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 10-15 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 4 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

Art Unit: 2626

applicant regards as the invention. It is noted that "the predetermined color component" in line 9 of claim 1 and in line 14 of claim 4 is indefinite. Clarification on whether it means the predetermined color component of the pixel of interest or the predetermined color component of the pixel surrounding the pixel of interest. Claim 16 claims a second intensity of predetermined color components without claiming a first intensity in the claim or in the independent claim 7.

3. Claim 7 recites the limitations "the frequency of noise" in line 8, "the pixel of interest" in line 9, "the matrix" in line 11. There are insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-9, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avinash (US Patent No. 6,782,137).

Concerning claims 7 and 16, Avinash discloses an image processing apparatus (Fig.1) comprising an image input unit (16); an intensity computation unit (20) for computing a smoothing intensity based on a first intensity of a predetermined color component (black) output from a pixel of interest and a second intensity of predetermined color components output from pixels surrounding the pixel of interest, wherein the smoothing intensity is computed on the basis of the predetermined color component in such a manner that when the intensity of the

Art Unit: 2626

predetermined color component output from a pixel is high (high intensity value), a rate at which the intensity of the predetermined color component output from the pixel is to be distributed to surrounding pixel constituting the matrix is set to a larger value, and when the intensity of the predetermined color component is low (low intensity value), the rate is set to a small value.

(Figs. 1, 2, 5-8; Abstract; col. 4, lines 43-56; col. 5, line 18 – col. 6, line 26; col. 7, line 1 – col. 8, line 38; col. 10, line 1-18; col. 10, line 54 – col. 11, line 24).

It is noted that Avinash teaches that the image data is processed, filtered, enhanced, scaled and so forth to reduce noise (col. 1, lines 40-43).

Avinash does not directly teach that the smoothing intensity is computed on the basis of the frequency of noise. However, Avinash teaches the low frequency variation and high frequency variation in the image to correspondingly preserve the appearance of lighter and darker regions in the reconstructed image (col. 4, lines 47-56; col. 6, lines 3-7) and the computation is based on the variations between high and low intensity regions (col. 10, lines 1-18, lines 56-58). It would have been obvious to one skilled in the art at the time the invention was made to consider the frequency variation of the intensity relate to the frequency of noise since Avinash teaching is for improving the contrast-to-noise ratio without enhancing image artifacts (col. 2, lines 23-31).

Concerning claims 8 and 9, Avinash further teaches a storage device in which predetermined filter information is stored (information of the low pass filters 144, 146, Fig.6 or 202, 204 in Fig.8), a filter information selection circuit for selecting specific filter information (length L or dimensions LR) from the predetermined filter information; a smoothing circuit for

Art Unit: 2626

smoothing the electronic data; a storage device for storing the electronic data smoothed by the smoothing circuit (Figs.5-8; col. 7, lines 1-55; col. 9, lines 15-33).

Claims 1-3 are method claims of apparatus claims 7-9. Claims 1-3 are rejected for the same rationales set forth for claim 7-9 above.

Concerning claims 4-6, Avinash discloses a recording medium storing an image-processing program (Fig.1) for causing a computer to perform processing for eliminating noise to perform the steps in claims 1-3 above.

Conclusion

3. Claims 1-9, 16 are rejected.
4. Claims 10-15 are withdrawn from consideration as being directed to a non-elected invention.
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeleine AV Nguyen whose telephone number is 571 272-7466. The examiner can normally be reached on Monday, Tuesday, Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A. Williams can be reached on 571 272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Madeleine AV Nguyen". The signature is fluid and cursive, with the first name "Madeleine" and last name "Nguyen" being clearly distinguishable.

Madeleine AV Nguyen
Primary Examiner
Art Unit 2626

March 20, 2006